

# Environmental Health

## Burlington Northern & Santa Fe, Skykomish HEALTH CONSULTATION FINDINGS

### INTRODUCTION

The State Department of Health (DOH) has evaluated indoor air sampling results from seven locations near the Burlington Northern and Santa Fe Railroad former fueling and maintenance facility. The purpose of the evaluation was to determine the potential health effects from exposure to contaminants detected in indoor air.

### AIR SAMPLING RESULTS

The current evaluation looked at five sampling events from March 1998 through February 1999. Nine contaminants were detected at levels that required additional research. (Not all nine contaminants were found in every location sampled.) The nine contaminants of concern include:

- ❖ 1,1,2-trichloroethane
- ❖ benzene
- ❖ carbon tetrachloride
- ❖ chloroform
- ❖ dichloromethane (methylene chloride)
- ❖ toluene
- ❖ m,p-xylene
- ❖ tetrachloroethene
- ❖ trichloroethene

These contaminants are volatile organic compounds (VOCs).

*A VOC is an organic (carbon-containing) compound that evaporates (volatilizes) easily at room temperature. Many solvents contain VOCs.*

Elevated levels of total VOCs were found in two residences. Propane furnaces were the suspected source of total VOCs.

### CONCLUSIONS

**Based on current scientific and epidemiological information, exposure to the contaminants found over the last five indoor air sampling events were not at levels expected to cause harmful health effects.**

Also, in two previous evaluations, conducted on earlier sampling results, air contaminants were not at levels expected to cause harmful health effects.

**Non-cancer health effects** - Long-term exposure (30 years) to the contaminants found is not expected to cause non-cancer health effects.

**Cancer health effects** - Long-term exposure to cancer-causing contaminants found may result in a low to very low increased lifetime cancer risk.

*Low to very low increased cancer risk is defined as one additional cancer in a population of 10,000 to 100,000 people exposed, averaged over a 70-year lifetime.*

Two locations sampled were the school and Post Office, where people are not normally exposed 24 hours-a-day for 30 years. So, the possibility for harmful health effects occurring from exposure in these locations is even less.

## CHILD HEALTH EVALUATION

DOH also evaluated the sampling results to determine if children living in the residences or attending school near the facility were being exposed to contaminants at levels that might affect their health. After reviewing current scientific information on reproductive and developmental effects for the nine contaminants of concern, DOH determined that there would not be any harmful impacts to children's health.

## RECOMMENDATIONS

1. Make sure there is adequate ventilation indoors during renovation activities, to reduce the accumulation of VOCs.
2. The resident who is currently renovating his home should consider collecting an indoor air sample to make sure the VOC levels remain low.

3. Residents with gas heating systems should be reminded to check for gas leaks, and make sure there is proper ventilation near the furnace.

## FUTURE ACTIVITIES

DOH should be notified if future remedial actions occur which could impact residential exposures. DOH is also available to review and evaluate future sampling results.

## FOR MORE INFORMATION OR QUESTIONS

Contact Paul Marchant for information on specific contaminants identified during the indoor air sampling or for a copy of the Health Consultation at 1-888-586-9427.

